

## PHARMACOLOGICAL NEUROENHANCEMENT AND THE ABILITY TO RECOVER FROM STRESS – A REPRESENTATIVE SURVEY AMONG THE GERMAN POPULATION

**Andrea Chmitorz**<sup>1,2</sup>, Christiana Bagusat<sup>3</sup>, Angela Kunzler<sup>4</sup>, Andreas G. Franke<sup>5</sup>,  
Jennifer Schlecht<sup>6</sup>, Klaus Lieb<sup>6,4</sup>

<sup>1</sup>Department of Psychiatry and Psychotherapy, University Medical Center, Mainz, Germany ,

<sup>2</sup>German Resilience Center, Department of Psychiatry and Psychotherapy, University Medical Center Mainz, Mainz, Germany, Mainz, Germany , <sup>3</sup>Department of Psychiatry and Psychotherapy, University Medical Hospital, Mainz, Germany , <sup>4</sup>German Resilience Center, German Resilience Center, Mainz, Germany , <sup>5</sup>University of Applied Labour Studies, Bundesagentur Für Arbeit, Mannheim, Germany , <sup>6</sup>Department of Psychiatry and Psychotherapy, University Medical Center, Mainz, Germany

**Background:** Pharmacological neuroenhancement (PNE) refers to the use of psychoactive substances without medical indication to enhance cognitive performance, improve mood or reduce nervousness. Although some studies have reported that drugs for PNE are also being used to cope with stressful life situations, nothing is known about the relationship of PNE and the ability to recover from stress.

**Methods and findings:** A cross-sectional survey in a representative sample of 1,128 adults (age ≥ 18 yrs.) from the population of Germany was conducted. The use of PNE and related attitudes, perceptions and behaviours were assessed by structured interviews and self-report questionnaires. Stepwise logistic regression with backward elimination was conducted to identify potential risk factors for PNE use.

**Results:** Lifetime prevalence for the use of stimulating prescription drugs without medical indication was 4.3%, 10.2% for stimulating illicit drugs, 20.3% for mood modulating prescription drugs, and 23.4 % for cannabis. Coping with stressful situations was a more prevalent motive to use stimulant or mood modulating prescription drugs than stimulating illicit drugs or cannabis. The individual perceived stress almost tripled the risk of using stimulating prescription drugs (OR: 2.86; 95% CI: 1.49-5.46). The individual ability to recover from stress decreased the risk of using any substance for PNE and especially mood modulating prescription drugs by about 40% (OR: .62; 95% CI: .47-.81).

**Conclusions:** The non-medical use of prescription drugs for PNE appears to be more prevalent in subjects who are less resilient to stress. Tailored resilience interventions that improve the ability to adapt to and recover from stressors may prevent the use of stimulating prescription medication for PNE. Further research should disentangle the association between psychological resilience and PNE as well as examine the efficacy of resilience interventions in the prevention of PNE.

## **STIGMA ASSOCIATED WITH DEPRESSION IN FIRST YEAR STUDENTS OF THE UNIVERSITY OF PORTO**

**Virgínia Conceição<sup>1</sup>**, Inês Rothes<sup>2,3</sup>, Ricardo Gusmão<sup>1</sup>

<sup>1</sup>Institute of Public Health, University of Porto, Porto, Portugal, <sup>2</sup>Centre for Psychology, University of Porto, Porto, Portugal, <sup>3</sup>Faculty of Psychology and Educational Sciences, University of Porto, Porto, Portugal

In Portugal, depression has the 4th highest yearly prevalence within the 34 countries taking part in the WHO Survey, being also one of the countries with the biggest treatment gap. The well-recognized negative consequences of mental health stigma have contributed to the large increase in the number of stigma reduction interventions, however, there is still a lack of research concerning the effectiveness of these interventions. The present randomized controlled trial aims to generate knowledge about the use of a video-based intervention as a tool to reduce stigma associated with depression in first year University students (measured using the Depression Stigma Scale - DSS), as well as its effect on help-seeking behaviours (measured using the Attitudes Toward Seeking Professional Help scale - ATSPH). All first-year students of the University of Porto were invited to participate in this study, and a sample of 809 were recruited, 26.8% male and 73.2% female, with a mean age of 19.12 (SD=3.03). The baseline results show a personal depression stigma percentage of 25.43 (SD=10.66) and a perceived depression stigma percentage of 62.26 (SD=15.99); males have statistically lower levels of personal depression stigma. Regression analysis indicated that the attitudes toward seeking professional help were predicted by both personal and perceived depression stigma, with the two subscales showing opposite effects. The Personal stigma has the biggest effect on the help-seeking attitudes, with 27.5% of the variability on the ATSPH being accounted for by depression personal stigma, and with a Pearson correlation of 0.524 and a  $B=-0.696$ . The perceived subscale shows a much smaller effect, but still significant, with a Pearson of 0.104, a  $R^2=0.011$  and a  $B=0.092$ . We also found a positive correlation between perceived depression stigma and the PHQ9 scores, with perceived stigma significantly lower on scores below the 9-point cut-off ( $r=0.145$ ,  $p<0.05$ ).

## CLINICIAN-PATIENT MOVEMENT SYNCHRONY MEDIATES SOCIAL GROUP EFFECTS ON INTERPERSONAL TRUST AND PERCEIVED PAIN

**Pavel Goldstein**<sup>1,2</sup>, Elizabeth Losin<sup>3</sup>, Tor Wager<sup>4</sup>

<sup>1</sup>Psychology and Neuroscience, University of Colorado Boulder, Boulder, USA, <sup>2</sup>School of Public Health, University of Haifa, Haifa, Israel, <sup>3</sup>Department of Psychology, University of Miami, Miami, USA, <sup>4</sup>Department of Psychology and Neuroscience, University of Colorado Boulder, Boulder, USA

**Background:** Pain is an unfortunate consequence of many medical procedures that in many patients becomes chronic and debilitating. Among the factors affecting medical pain, clinician-patient (C-P) similarity and nonverbal communication are particularly important for pain diagnosis and treatment. We tested the role of C-P nonverbal communication on (1) perceived clinician trustworthiness and (2) patients' pain perception in an experimental pain study in healthy volunteers.

**Methods:** Participants (N=66) were grouped into C-P dyads, with one participant assigned to the clinician and the other to the patient role. Clinicians administered painful stimuli to patients. We manipulated the perceived C-P similarity of each dyad, and each patient was tested twice: Once with a clinician who shared their core beliefs and values (concordant, CC) and once with a clinician who did not (discordant, DC). Interactions were videotaped and movement synchrony was calculated as a marker of the nonverbal communication. Mediation models tested whether movement synchrony mediated the effects of group concordance on patients' pain and trust in the clinician.

**Results:** Movement synchrony captured from video was higher in CC than DC dyads. Higher movement synchrony predicted reduced pain and increased trust in the clinician. Movement synchrony also formally mediated the group concordance effects on pain and trust.

**Conclusions:** Movement synchrony in clinician-patient interactions is an unobtrusive measure related to C-P relationship quality, trust towards the clinician, and pain. These findings increase our understanding of the role of nonverbal C-P communication on pain and related outcomes and suggest that interpersonal synchrony may be associated with better patient outcomes, independent of the specific treatment provided.

## **MINDFULNESS AS A SOURCE OF RESILIENCE AND BETTER DOCTOR-PATIENT COMMUNICATION – AN INTERNATIONAL STUDENTS COLLABORATIVE**

Miriam Ortiz<sup>1</sup>, Elad Schiff<sup>2</sup>, Barbara Stöckigt<sup>1</sup>, Benno Brinkhaus<sup>1</sup>, Anna-Lena Pungner<sup>1</sup>,  
Julia Grosser<sup>1</sup>

<sup>1</sup>Institute for Social Medicine, Epidemiology and Health Economics, Charité Medical School, Berlin, Germany, <sup>2</sup>Internal Medicine, and Complementary & Integrative Medicine Service, Bnai Zion Medical Center, Rappaport Faculty of Medicine Technion, Haifa, Israel

**Introduction:** Aiming a more holistical approach resilience is a key factor within the practice of mindfulness in the frame of complementary and integrative medicine (CIM). Being resilient as a health care practitioner from the beginning of the career may not only foster work ability but also open an approach to guide doctor-patient-communication accessible and efficiently. An international medical student collaboration project was conducted to explore resilience supporting mindfulness techniques and other fields of CIM and their influence on improving communication skills.

**Methods:** Twenty-two medical students, nine mentors and two public representatives both from Israel and Germany participated in a 18-months international project. Workshops took place in Haifa and Berlin, with continued work in-between. Beneath Mind-Body Medicine and Mindfulness the project allowed both to learn about other fields of CIM such as Chinese Medicine and Herbal Medicine as well as to experience different cultural backgrounds.

**Results:** As a result of their experiences and work during the project the students presented educational modules for medical students, to be found on the Bnai Zion website ([http://www.b-zion.org.il/pages\\_e/6683.aspx](http://www.b-zion.org.il/pages_e/6683.aspx)). The e-learning module for a mindful mindset, as an example, invites to learn about the theory of mindfulness and to experience mindfulness as a source of resilience in daily clinical challenges. It consists of different parts including a theoretical introduction into mindfulness, different practical exercises and a pocket guide for the daily clinical routine. (<https://prezi.com/view/kxN2SWxihRqtmaXqc1rA/>).

**Conclusion:** The cultural exchange and explorative process in this international medical student collaboration was a learning process for all participants and led to insights regarding the potential contribution of Mindfulness to patient-doctor communication and resilience. Staying conscious to one's focus helps to stay alert towards patients' needs and communication both verbal and non-verbal. The outcomes of this international collaboration, specifically the educational modules it produced, should be further explored by medical schools.

## **WAKING UP THE BEAR: DANCE/MOVEMENT THERAPY GROUP MODEL WITH DEPRESSED ADULT PATIENTS**

**Sheerie Lotan Mesika**

Dance Movement Therapy, Shalvata Hospital, Hod Hasharon, Israel

Depression is a widespread problem, affecting about 300 million people worldwide (World Health Organization [WHO], 2010). It is among the leading causes of disability and causes the highest loss of productivity worldwide. Therefore, it is important to develop treatment options for depression, and if possible, to augment effective treatment choices (Pylvänäinen, et al., 2015).

In this research I suggest that by enhancing the biological rhythms of life, the depressed body can revitalize (Danielsson & Rosberg, 2015). With this in mind, dance can bring joy and vitality and alleviate the negative affects of depression (Koch, Morlinghaus, & Fuchs, 2007).

Recently, an updated meta-analysis conducted by Koch, Kunz, Lykou, and Cruz (2014) demonstrated that Dance/Movement (DMT) therapy has a moderate effect on a range of disorders, including depression.

One method of DMT method is the Chacian method, which is a form of group therapy (Pylvänäinen, et al., 2015). This research plans to focus on: "Playing as a thing to itself" (or playing as the "doing" through which vitality can be restored (Winnicott 1971) as a therapeutic factor.

Vitality was one of the healing factors identified by Schmais (1985) in her foundational theoretical article concerning group DMT. What is vitality? It is a manifestation of life, of being alive. Affects of vitality materialize through "dynamic, kinetic terms" and are closely connected to basic functions and behaviors, such as the way a person breathes, Depressed patients tend to lack vitality.

The current pilot study will examine the effectiveness of a Dance Movement therapy group model on adults diagnosed with depression, seeing if the motivation to play increases a sense of vitality and alleviates symptoms of depression.

(Winnicott, 1971, p.71). What is being attempted here is to find a way to restore the creative entry into life and make the initial creative approach external.

## **MULTIDISCIPLINARY MENTAL HEALTH SUPERVISION IN NORTHERN BC: RESEARCH METHODOLOGY AND PRELIMINARY FINDINGS**

**Anthony Muturi Kariuki**

School of Social Work, University of Northern British Columbia, Prince George, Canada

This exploratory study adopted an interpretive approach, using a single qualitative case study design aimed at explaining and developing a theory on professional mental health supervisory work. A qualitative case study is appropriate for this research because the units of analysis are phenomenon that can be intrinsically bounded (Merriam & Tisdell, 2015). The following research questions are addressed: 1) What challenges and opportunities do mental health supervisors experience in northern British Columbia? 2) How do frontline workers, supervisors, and senior managers perceive the roles and activities of mental health supervision in northern British Columbia? 3) How are supervisory approaches in various mental health disciplines different or similar in northern British Columbia? Participants were interviewed and included 8 frontline workers, 18 supervisors, and 3 senior administrators. A documentary analysis of organization structure and supervisory material was also conducted. This poster represents the methodological roadmap that culminated in the latent themes. The themes reflect the results of the interviews with three participant groups: frontline workers, supervisors, and senior administrators, as well as a documentary analysis. Based on the three research questions the preliminary results indicate significant concurrence of the themes derived from the three participant groups.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). San Francisco, CA: Jossey-Bass.

## SUICIDAL THOUGHTS AND INTENTIONS AMONG THE EMPLOYEES IN LITHUANIA

**Jelena Stanislavoviene**<sup>1,2</sup>, Janina Utkuviene<sup>3,4</sup>, Vida Baliulyte<sup>2</sup>, Kotryna Skarolskyte<sup>1</sup>

<sup>1</sup>Faculty of Medicine, Institute of Health Sciences, Public Health Department, Vilnius University, Vilnius, Lithuania, <sup>2</sup>Mental Health Department, State Mental Health Center, Vilnius, Lithuania, <sup>3</sup>Public Relation Department, State Mental Health Center, Vilnius, Lithuania, <sup>4</sup>Public Relation Department, Republican Vilnius Psychiatric Hospital, Vilnius, Lithuania

In order to reduce the rate of suicides among the employees, it is crucial to define the characteristics of those prone to such an act.

The aim of this study was to detect the links between sociodemographic determinants and the suicidal thoughts and intentions among the employees in Lithuania.

**Method:** Representative probability sampling was used to select respondents. There were two groups of questions asked during the interviews: sociodemographic determinants and questions about suicidal thoughts and intentions: Have you ever felt that it is not worth living? Have you ever thought of taking your life, even if you could not do that in reality? Have you ever been in the state when you seriously thought of the possibility to take your life or made plans on how to do it? Chi-Square and Fisher Exact Tests were used to compare categorical data.

**Results and Conclusions:** 598 employees from different sectors took part in the survey. It was found that the majority of respondents who felt that it was not worth living were among respondents employed in the services sector and lived in Taurage or Kaunas districts. The majority of respondents with thoughts of taking their life even if they could not do that in reality, or those with serious plans on how to take their lives were among those whose place of residence was in towns with population from 20000 to 150000 residents, Kaunas and Taurage districts, employed in services sector or holding high positions at the workplaces (directors, senior managers). Statistically significant links between suicidal thoughts/intentions and such sociodemographic determinants as education, number of family members, income level, family status, gender, and age were not detected.